In The Claims:

1. (Original) An energy storage device product, comprising:
a self-supporting film consisting of a dry mix of dry carbon
and dry binder particles.

2. (Original) The product of claim 1, wherein at least some of the dry mix is dry fibrillized.

3. (Original) The product of claim 1, wherein the dry mix consists of no processing additive.

4. (Original) An energy storage device product, comprising:
one or more self-supporting dry adhesive film comprising
a dry mix of dry binder and dry carbon particles.

5. (Original) The product of claim 4, wherein the self-supporting dry adhesive film is a compacted film.

6. (Original) The product of claim 5, wherein the dry adhesive film comprises a thickness of less than 250 microns

7. (Original) The product of claim 4, wherein the self-supporting dry adhesive film comprises a length of at least 1 meter.

8. (Original) The product of claim 4, wherein the self-supporting dry adhesive film is coupled directly against a substrate.

9. (Original) The product of claim 8, wherein the self-supporting dry adhesive film comprises no processing additive.

10. (Original) The product of claim 8, wherein the substrate comprises a collector.

11. (Original) The product of claim 10, wherein the collector comprises aluminum.

12. (Original) The product of claim 8, wherein the product comprises a collector, and wherein the dry adhesive film is coupled directly against a surface of the collector.

13. (Original) The product of claim 12, wherein the collector is untreated.

14. (Original) The product of claim 10, wherein the collector comprises two sides, wherein one self supporting dry adhesive film is calendered directly against one side of the collector, and wherein a second self supporting dry adhesive film is calendered directly against a second side of the collector.

15. (Original) The product of claim 14, wherein the collector is treated.

16. (Original) The product of claim 14, wherein the collector is formed to comprise a roll.

17. (Original) The product of claim 16, wherein the roll is disposed within a sealed aluminum housing.

18. (Original) The product of claim 17, wherein within the housing is disposed an electrolyte, and wherein the product comprises a double-layer capacitor.

19. (Original) The product of claim 8, wherein at least some of the dry binder comprises a fibrillizable flouropolymer, and wherein the dry carbon particles comprise activated carbon particles and conductive carbon particles.

20. (Original) The product of claim 8, wherein at least some of the dry binder comprises a thermoplastic, and wherein the dry carbon particles comprise conductive carbon particles.

21. (Original) An energy storage product, consisting of:
a dry fibrillized mix of dry binder and dry carbon particles formed into a continuous self-supporting adhesive electrode film without the substantial use of any processing additives.

22. (Original) The product of claim 21, wherein the processing additives are selected from a group consisting of hydrocarbons, high boiling point solvents, antifoaming agents, surfactants, dispersion aids, water, pyrrolidone, mineral spirits, ketones, naphtha, acetates, alcohols, glycols, toluene, xylene, and Isopars^{tm}.

23. (Original) The product of claim 21, wherein at least some of the dry binder comprises a fibrillized dry binder.

24. (Original) The product of claim 23, wherein the binder is fibrillized by a high-pressure gas.

25. (Original) The product of claim 24, wherein the high-pressure comprises a pressure of more than 60 PSI.

26. (Original) The product of claim 25, wherein the gas comprises a water content of less than about 20 PPM.

27. (Original) An electrode, the electrode comprising:
a self-supporting dry film including compacted dry binder and dry carbon particles.

28. (Original) The electrode of claim 27, wherein the particles are dry intermixed so as to be distributed within the dry film with a gradually decreasing gradient.

29. (Original) The electrode of claim 27, further comprising a collector, wherein a first side of the dry film is coupled to the collector.

30. (Original) The electrode of claim 29, further comprising a separator, wherein a second side of the dry film is coupled to the separator.

31. (Original) The electrode of claim 30, wherein the dry binder comprises a heated thermoplastic.

32. (Original) The electrode of claim 31, wherein the dry carbon particles comprise conductive carbon particles.

33. (Original) The electrode of claim 30, wherein the dry binder comprises a dry flouropolymer.

34. (Original) The electrode of claim 33, wherein the dry carbon particles comprise dry conductive carbon particles and dry activated carbon particles.

35. (Original) The electrode of claim 29, wherein the dry film is a heated dry film.

36. (Original) The electrode of claim 35, wherein the dry film comprises a density of about .50 to .70 gm/cm^2.

37. (Original) The electrode of claim 28, wherein the dry intermixed particles comprise two mixes, wherein as a percentage of a weight of a first mix, the first mix comprises between about 80% to 95% activated carbon, between about 0% to 15% conductive carbon, and between about 3% to 15% fibrillizable fluoropolymer; and wherein as percentage of weight of a second mix, the second mix comprises about 40% to 60% thermoplastic binder, and about 40% to 60% conductive carbon.

38. (Original) The electrode of claim 37, wherein the dry film comprises about 1 to 100 parts of the second mix for about every 1000 parts of the first mix.

39. (Original) A capacitor, comprising;

a plurality of dry processed particles, the dry processed particles including binder and carbon particles.

40. (Original) The capacitor of claim 39, wherein at least some of the dry processed particles are formed as a self supporting dry electrode film, and wherein at least some of the dry processed particles are compacted against the dry electrode film.

41. (Original) The capacitor of claim 39, further comprising a current collector, wherein the dry processed particles are dry bonded to the current collector, and wherein the current collector comprises aluminum.

42. (Original) The capacitor of claim 39, further comprising a separator, wherein the dry processed particles are dry bonded to the separator.

43. (Original) The capacitor of claim 42, wherein the separator comprises paper.

44. (Original) The capacitor of claim 39, wherein the capacitor is rated to operate at a maximum voltage of 3.0 volts or less.

45. (Original) The capacitor of claim 39, further comprising an additive based electrode film, and wherein the dry processed particles are compacted against the additive based electrode film.

46. (Original) The capacitor of claim 39, wherein the dry processed particles are compacted into a dry self-supporting electrode film by a single pass compaction device.

47. (Original) The capacitor of claim 39, further comprising a sealed aluminum housing, wherein the dry processed particles are disposed within the housing.

48. (Original) The capacitor of claim 41, further comprising a sealed aluminum housing, wherein the current collector is coupled to the housing by a laser weld.

49. (Original) The capacitor of claim 48, wherein the capacitor comprises a jellyroll type electrode.

50. (Original) A capacitor, the capacitor comprising:

a collector; the collector having two sides; and

two electrode film layers, wherein a first electrode film layer is bonded directly onto a first surface of the collector, and wherein a second electrode film layer is bonded directly onto a second surface of the collector.

51. (Original) The capacitor of claim 50, wherein the two electrode film layers consist of no processing additives.

52. (Original) The capacitor of claim 51, wherein the two electrode layers comprise a thermoplastic.

53. (Original) The capacitor of claim 50, wherein the film layers comprise

substantially zero residues as determined by a chemical analysis of the layers before impregnation by an electrolyte.

54. (Original) The capacitor of claim 53, wherein the residues comprise hydrocarbons, high boiling point solvents, antifoaming agents, surfactants, dispersion aids, water, pyrrolidone, mineral spirits, ketones, naphtha, acetates, alcohols, glycols, toluene, xylene, and Isopars^{tm}

55. (Original) The capacitor of claim 52, wherein the layers are

impregnated with an electrolyte.

56. (Original) The capacitor of claim 55, wherein the capacitor comprises

a double-layer capacitor.

57. (Withdrawn) An apparatus for manufacture of an energy device electrode, comprising:

one or more feeder, wherein each feeder provides dry carbon and binder particles for use by the apparatus.

58. (Withdrawn) The apparatus of claim 57, wherein the apparatus includes at least two rollers, and wherein the at least two rollers are disposed to receive the particles from the feeders to form a dry film from the particles.

59. (Withdrawn) The apparatus of claim 57, wherein the apparatus includes a compactor, wherein the compactor is disposed to receive the particles to form a dry film from the particles, and wherein the dry film is self-supporting after one pass-through the compactor.

60. (Withdrawn) The apparatus of claim 58, wherein the dry film comprises a density of about .50 to .70 gm/cm^2.

61. (Withdrawn) The apparatus of claim 58, wherein the dry film is a long self supporting film.

62. (Withdrawn) The apparatus of claim 58, wherein the dry film comprises an

intermixed dry film, wherein some of the dry carbon and dry binder particles are intermixed within the dry film with a first gradient, wherein some of the dry carbon and dry binder particles are intermixed within the dry film with a first gradient, wherein the first gradient of particles provides electrode functionality, and wherein the second gradient of particles provides adhesive functionality.

63. (Withdrawn) The apparatus of claim 57, wherein the apparatus includes at least two heated rollers, and wherein the at least two rollers are disposed to receive the particles to form a dry electrode film from the mixture.

64. (Withdrawn) The apparatus of claim 63, wherein the apparatus is disposed to receive a current collector and to calender the dry electrode film directly to the current collector.

65. (Original) An energy storage device electrode, comprising:

a dry film, wherein the dry film comprises intermixed dry carbon and dry binder particles, wherein some of the dry carbon and dry binder particles are intermixed within the dry film with a first gradient, wherein some of the dry carbon and dry binder particles are intermixed within the dry film with an opposing different second gradient, wherein the first gradient of particles provides electrode functionality, and wherein the second gradient of particles provides adhesive functionality.

66. (Original) An energy storage device, comprising:

one or more continuous self supporting intermixed film structure comprising dry carbon particles and dry binder particles, the film structure comprisng about zero parts per million processing additive.

67. (Original) The energy storage device of claim 66, wherein the additive is selected from the group consisting of hydrocarbons, high boiling point solvents, antifoaming agents, surfactants, dispersion aids, water, pyrrolidone, mineral spirits, ketones, naphtha, acetates, alcohols, glycols, toluene, xylene, and Isopars[tm].

68. (Original) The energy storage device of claim 66, wherein the film structure comprises a dry adhesive binder.

69. (Original) The energy storage device of claim 66, wherein the film structure comprises a dry conductive carbon.

70. (Original) The energy storage device of claim 66, wherein the film structure comprises dry activated carbon, dry conductive carbon, and dry adhesive binder.

71. (Original) The energy storage device of claim 66, wherein the film structure is coupled to a collector.

72. (Original) The energy storage device of claim 66, wherein the intermixed film structure comprises two intermixed film structures coupled to a collector, wherein a first of the film structures is coupled to a first side of the collector, and wherein a second of the film structures is coupled to a second side of the collector.

73. (Original) The energy storage device of claim 66, wherein the intermixed film structure is an electrode film.

74. (Original) The energy storage device of claim 73, wherein the electrode film is an energy storage device electrode film.

75. (Original) The energy storage device of claim 74, wherein the electrode film comprises a capacitor electrode film.

76. (Original) An energy storage device, comprising:

a housing;

a collector, the collector having a surface;

an electrolyte, the electrolyte disposed within the housing; and

an electrode film, wherein the electrode film is impregnated with the electrolyte, and wherein the electrode film is coupled directly to the surface.

77. (Original) The device of claim 76, wherein the electrode film is substantially insoluble in the electrolyte.

78. (Original) The device of claim 76, wherein the electrode comprises a dry adhesive binder, wherein the binder is substantially insoluble in the electrolyte.

79. (Original) The device of claim 78, wherein the adhesive binder comprises a thermoplastic, and wherein the thermoplastic couples the electrode film to the collector.

80. (Original) The device of claim 78, wherein the electrolyte is an acetonitrile type of electrolyte.

81. (Original) An energy storage device structure, comprising:

one or more electrode film, wherein the one or more electrode film is both conductive and adhesive, and wherein the one or more electrode film is coupled directly to a current collector.

82. (Original) An energy storage device structure, comprising:

one or more self-supporting dry process based electrode film.

83. (Original) The structure of claim 82, wherein the film comprises conductive and adhesive particles.

84. (Original) The structure of claim 83, wherein the adhesive particles comprise a thermoplastic.

85. (Original) The structure of claim 84, wherein the electrode is a capacitor electrode.

86. (Original) A capacitor structure, comprising
a collector; and
a plurality of dry processed particles coupled to the collector, wherein the particles define a long integral dry electrode film.

87. (Original) The structure of claim 86, wherein the film comprises dry conductive carbon and dry adhesive materials.

88. (Original) The structure of claim 86, wherein the film comprises one or more blend of dry particles.

89. (Original) The structure of claim 88, wherein a first of the particles comprises activated carbon, conductive carbon, and a fibrillizable binder; and wherein a second of the particles comprises conductive carbon and adhesive binder.

90. (Original) The structure of claim 89, wherein as a percentage of a weight of the film, the first of the particles comprises between about 80% to 95% activated carbon, between about 0% to 15% conductive carbon, and between about 3% to 15% fibrillizable fluoropolymer; and wherein as percentage of weight of the film, the second of the particles comprises about 40% to 60% binder, and about 40% to 60% conductive carbon.

91. (Original) The structure of claim 90, wherein the film comprises about 1 to 100 parts of the second of the particles for about every 1000 parts of the first of the particles.

92. (Original) The structure of claim 88, wherein the dry particles comprise conductive carbon, and a thermoplastic binder.

93. (Original) The structure of claim 86, wherein the film is at least 5 meters long.

94. (Original) The structure of claim 86, wherein the film is self supporting.

95. (Original) The structure of claim 87, wherein the adhesive materials are selected from a group consisting of thermoplastic, thermoset, and radiation set materials.

96. (Original) An electrode, comprising:

a collector; and

a dry process based electrode film, wherein the electrode film is coupled to the collector, wherein the electrode film comprises conductive particles and binder particles, and wherein between the collector and the electrode film there exists only one distinct interface.

97. (Original) The electrode structure of claim 96, wherein the binder particles comprise a thermoplastic.

98. (Original) The electrode of claim 96, wherein the conductive particles comprise conductive carbon.

99. (Original) The electrode of claim 97, wherein the electrode film further comprises activated carbon.

100. (Original) The electrode of claim 96, wherein the conductive particles comprise a metal.

101. (Original) An energy storage device electrode, the electrode comprising:

adhesive binder particles; and

carbon particles, the carbon particles comprising a surface,

wherein a plurality of the carbon particles are coupled to each other by the adhesive binder particles, and wherein a plurality of the carbon particles make direct carbon particle to carbon particle contact.

102. (Original) An energy storage device structure, comprising:

a plurality of intermixed dry processed carbon and binder particles formed into an electrode, wherein as compared to an electrode formed of a plurality of substantially similar carbon and binder particles processed with a processing additive, the intermixed dry processed carbon and binder particles comprise less residue.

103. (Original) A capacitor, comprising

a continuous compacted self supporting dry adhesive electrode film comprised of a dry mix of dry binder and dry carbon particles, the film coupled to a collector, the collector shaped into a roll disposed within a sealed aluminum housing.

104. (Original) The capacitor of claim 103, wherein the dry adhesive electrode film comprises substantially no hydrocarbons, high boiling point solvents, antifoaming agents, surfactants, dispersion aids, water, pyrrolidone, mineral spirits, ketones, naphtha, acetates, alcohols, glycols, toluene, xylene, and/or Isopars^{tm}.

105. (Original) An energy storage device, comprising:

dry process based adhesive electrode means for providing adhesive electrode functionality in an energy storage device.